

WHAT IS CLAIMED IS:

Sub A 1. A digital-signal-processing circuit having a gamma-correction unit for carrying out gamma correction on an input digital video signal by using a gamma-correction table, wherein the number of bits input to said gamma-correction unit is set at a value greater than the number of bits output from said gamma-correction unit.

2. A digital-signal-processing circuit according to claim 1 wherein:

a signal-processing unit is provided at a stage preceding said gamma-correction unit and used to apply an arbitrary gain to said input digital video signal; and

the number of bits output from said gamma-correction unit is set at a value greater than the number of bits input to said signal-processing unit.

3. A display apparatus comprising:

display means employing an electro-optical devices each having a non-linear response characteristic;

a digital-signal-processing circuit having a gamma-correction unit for carrying out gamma correction on an input digital video signal by using a gamma-correction table, wherein the number of bits input to said gamma-correction unit is set at a value greater than the number of bits output from said gamma-correction unit; and

D/A-conversion means for converting a digital video signal obtained as a result of signal processing carried out by said digital-signal-processing circuit into an analog video signal and outputting said analog video signal to said display means.

4. A display apparatus according to claim 3 wherein said electro-optical devices are each a liquid-crystal cell.

5. A display apparatus according to claim 3 wherein said electro-optical devices are each an organic electro-luminescent device.

6. A display apparatus according to claim 3 wherein said electro-optical devices are a cathode ray tube.

7. A display apparatus according to claim 3 wherein:

said digital-signal-processing circuit has a signal-processing unit provided at a stage preceding said gamma-correction unit and used to apply an arbitrary gain to said input digital video signal; and

the number of bits output from said gamma-correction unit is set at a value greater than the number of bits input to said signal-processing unit.

8. A display apparatus according to claim 7

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wherein said electro-optical devices are each a liquid-crystal cell.

9. A display apparatus according to claim 7 wherein said electro-optical devices are each an organic electro-luminescent device.

10. A display apparatus according to claim 7 wherein said electro-optical devices are a cathode ray tube.

11. A liquid-crystal projector comprising:
an LCD panel comprising a matrix of pixels each implemented by a liquid-crystal cell;

radiation means for radiating beams to the area of said LCD panel;

a digital-signal-processing circuit having a gamma-correction unit for carrying out gamma correction on an input digital video signal by using a gamma-correction table, wherein the number of bits input to said gamma-correction unit is set at a value greater than the number of bits output from said gamma-correction unit; and

D/A-conversion means for converting a digital video signal obtained as a result of signal processing carried out by said digital-signal-processing circuit into an analog video signal and outputting said analog video signal to said display means.

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12. A liquid-crystal projector according to claim 11 wherein:

said digital-signal-processing circuit has a signal-processing unit provided at a stage preceding said gamma-correction unit and used to apply an arbitrary gain to said input digital video signal; and

the number of bits output from said gamma-correction unit is set at a value greater than the number of bits input to said signal-processing unit.